

Work Order ID 133427***133427***

Page 1

Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID:
Item Name: Seat Structure Assembly Stop ***NS2***
Start Date: 6/08/15 Start Qty: 100 ***3*** Cust Item ID:
Required Date: 6/08/15 Req'd Qty: 100 ***3*** Customer:
Reference:

Approvals: Process Plan: MLJ Date: JUN 09 2015 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3016	(DEO) A1								
D3017	C								
D5162	A								
D5189	A								

105 Pick Kit 0.00

105

Packaging Memo 0.00

Packaging

1 Q 15-7-14

110 Weld per dwg. A/R 4130 rod Batch: 1127925 0.00

110

Large Fab Memo 0.00

Large Fab

FABRICATE D5189-041 AS PER DWG AND BY USING DT8622.

DO NOT OPEN HOLES TO SIZE, IT WILL BE OPEN UPON FINAL ASSEMBLY.

ONLY WELD STUD D4667-041 TO TUBE. END CAP WILL BE WELDED AFTER OPENING HOLES IN TUBE.

1 Q 15-7-14

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

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Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
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Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Work Order ID 133427

Monday, June 08, 2015 4:01:21 PM

133427

Page 3

Item ID: D5162-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Seat Structure Assembly

Start Date: 6/08/15 Start Qty: 3:00

3

Cust Item ID:

Required Date: 6/08/15 Req'd Qty: 3:00

3

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130 Weld per dwg A/R 4130 rod Batch: 1127925 0.00***130***

Large Fab

Memo 0.00

Large Fab

FABRICATE D3017-041 AS PER DWG:

USE DT8598 FOR BENDING D3017-1/-3 TUBE.

USE DT8621 FOR DRILLING (#30 DRILL) BACK FRAME. ***DO NOT
OPEN HOLES IT WILL BE DONE AT FUTHER STEP***USE DT8622 FOR DRILLING (#30 DRILL) D3017-5. ***DO NOT OPEN
HOLES IT WILL BE DONE AT FUTHER STEP***USE DT8598 JIG FOR WELDING TUBES, LUGS AND ONE END CAP,
OTHER END CAP WILL BE WELDED AFTER OPENING HOLES.1 EL 15-7-14

140 QC5- Inspect part completeness to step on W/O 0.00

140

QC

Memo 0.00

Quality Control

Q 15-7-14 DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order ID 133427

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Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Seat Structure Assembly
Start Date: 6/08/15 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 6/08/15 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
175	QC5- Inspect part completeness to step on W/O	0.00							
175									DAS
QC	Memo	0.00							9
Quality Control									9-89
180	Chemical Conversion Coat per QSI005 4.1	0.00							
180									
HandFinish	Memo	0.00							
Hand Finishing	CHEMICAL CONVERSION SEAT PANEL D3022-1 AND BACK PANEL D3023-1 AS PER DWG								
190	QC7-Inspect Chemical Conversion Coat	0.00							
190									
QC	Memo	0.00							
Quality Control									

Handwritten: 15-7-15 *[Signature]*
Handwritten: 15/07/15 *[Signature]*
DAS 36 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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200		0.00							
200									
Small Fab	Memo	0.00				1X			15/07/15
Small Fab	(TO FABRICATE D5162-051) ASSEMBLE D3023-1 PANEL TO D3017-041 BACK FRAME AS PER DWG D5162-051								
210	QC5- Inspect part completeness to step on W/O	0.00							
210									
QC	Memo	0.00				1			
Quality Control									
220	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
220									
Powdercoat	Memo	0.00							
Powder Coating	POWDER COAT ALL INDIVIDUAL PARTS								
	START TIME: 12:30								
	OVEN TEMPERATURE: 300°								
	FINISH TIME: 11:00								

DAS
30
9-89

JUL 14 2015

DAS
34
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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OTHER :																					

Work Order ID 133427

Monday, June 08, 2015 4:01:21 PM

133427

Page 9

Item ID: D5162-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Seat Structure Assembly
 Start Date: 6/08/15 Start Qty: 3.00 ***3*** Cust Item ID:
 Required Date: 6/08/15 Req'd Qty: 3.00 ***3*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
260	Identify as per dwg & Stock Location: <u>GA</u>	0.00							
260									
Packaging	Memo	0.00			DAS	<u>1</u>			JUL 15 2015
Packaging					30				
					9-89				
270	QC21- Final Inspection - Work Order Release	0.00							
270									
QC	Memo	0.00				<u>MCJ</u>			JUL 16 2015
Quality Control									

ME
15-7-15

DQA: _____ Date: _____



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Picklist Print

Monday, June 08, 2015 4:01:19 PM

Page 1

Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A 14.11.05 NEW ISSUE DD VERF:JLM IPP
REV:B 15-02-06 AS PER DWG REV.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D5190-1		Manufactured	No			110	Each	13.0000	1	3			
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D5190-1

Armrest Fitting

**

15-7-14

Location

Loc Qty

Loc Code

WA002

13

131642

11

131921

2

D5190-3		Manufactured	No			110	Each	3.0000	1	3			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D5190-3

Weld Pin

**

15-7-14

Location

Loc Qty

Loc Code

WA002

3

129486

1

133255

2

M4130NT0.750W.049		Purchased	No			105	f	138.9760	15.5	48.94737			
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M4130NT0 750W 049

4130 RD Tube .750 x.049W

**

15-7-14

Location

Loc Qty

Loc Code

MAT033

138.976

m122425

22.5

m130619

0.566

m131541

115.91

17+

DQA: _____ Date: _____



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Root Cause <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Environment ☐</td> <td style="width: 50%;">No Re-verification ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width: 100%; border: none;"> <tr> <td style="width: 33.3%;">Pressure/Forced ☐</td> <td style="width: 33.3%;">Temperature/Cure ☐</td> <td style="width: 33.3%;">Power Loss/Surge ☐</td> <td style="width: 33.3%;">Positioned Wrong ☐</td> </tr> <tr> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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OTHER :																																																																							

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D4667-041 Manufactured No

110 Each 5.0000 1 3

D4667-041

Armrest Stud Assembly

**

EL 15-7-14

Location

Loc Qty

Loc Code

WA002

5

128356

5

M4130NT0.500W.049 Purchased No

105 f 349.0810 4.33 13.67368

M4130NT0 500W 049

4130 RD Tube .500 x.049W

**

EL 15-7-14

Location

Loc Qty

Loc Code

MAT032

349.081

m124293

12.166

m127111

20.383

m128713

21

m129826

186.816

m130554

108.716

M4130NT1.000W.120 Purchased No

105 f 43.4500 1.2 3.789474

M4130NT1 000W 120

4130 RD Tube 1.00 x .120wall

**

EL 15-7-14

Location

Loc Qty

Loc Code

MAT033

43.45

m131146

43.45

D3020-1 Manufactured No

120 Each 19.0000 4 12

D3020-1

Fitting

**

EL 15-7-9

Location

Loc Qty

Loc Code

WA002

19

127245

5

127508

14

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D3017-7

Manufactured No

130

Each

12.0000

3

9

D3017-7

Lug

**

EL 15-7-13

Location

Loc Qty

Loc Code

WA002

12

125821

1

127589

11

D3023-1

Manufactured No

130

Each

2.0000

1

3

D3023-1

Back Panel

**

EL 15-7-13

Location

Loc Qty

Loc Code

WA001

2

127076

1

130724

1

D3017-11

Manufactured No

130

Each

19.0000

1

3

D3017-11

Cap

**

EL 15-7-14

Location

Loc Qty

Loc Code

WA001

19

128808

19

M4130NT0.750W.083

Purchased No

105

f

48.6260

2.5

7.894737

M4130NT0 750W 083

4130 RD Tube .750 x.083W

**

EL 15-7-14

Location

Loc Qty

Loc Code

MAT032

48.626

m129826

0.043

m131146

48.583

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D3022-1 Manufactured No

150 Each 2.0000 1 3

D3022-1

Seat Pan

EL 15-7-14

Location

Loc Qty

Loc Code

WA001

2

125401

1

131959

1

D3016-15 Manufactured No

165 Each 36.0000 2 6

D3016-15

Gusset

EL 15-7-14

Location

Loc Qty

Loc Code

WA002

36

112203

16

119895

20

D3016-13 Manufactured No

165 Each 12.0000 2 6

D3016-13

Bracket

EL 15-7-14

Location

Loc Qty

Loc Code

WA002

12

110113

10

110914

2

D3016-17 Manufactured No

165 Each 18.0000 2 6

D3016-17

Gusset

EL 15-7-14

Location

Loc Qty

Loc Code

WA001

12

128213

12

WA002

6

127836

6

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D3017-11 Manufactured No

165 Each 19.0000 2 6

D3017-11

Cap

**

EL 15-7-14

Location

Loc Qty

Loc Code

WA001

19

128808

19

*** MS20600-AD4W2

Purchased No

200 Each

792.0000

46

138

MS20600-AD4W2

Rivet

**

15/07/15 DAS 36 9-89

Location

Loc Qty

Loc Code

CCK004

717

m126475

717

GA

68

m125708

68

ST309

7

m126475

7

AN4-6A

Purchased No

240 Each

1,343.000

1

3

AN4-6A

BOLT

**

15/07/15 DAS 36 9-89

Location

Loc Qty

Loc Code

CA

143

M128403

43

M130851

100

ST325A

1192

M131153

1192

ST345

8

M128403

8

*** MS20600AD4W3

M 129795

QTY: 6x

EP 15/07/15

DAS 36 9-89

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

NAS43DD4-16FC

Purchased

No

240

Each

34.0000

2

6

NAS43DD4-16FC

Spacer

**

DAS 36
9-89
15/07/15

Location

Loc Qty

Loc Code

ST262

34

m130835

34

2
3

AN4-4A

Purchased

No

240

Each

387.0000

1

3

AN4-4A

BOLT

**

DAS 36
9-89
15/07/15

Location

Loc Qty

Loc Code

FP001

24

m125709

24

ST325A

363

m129390

363

1

D5159-043

Manufactured

No

240

Each

1.0000

1

3

D5159-043

Seat Back Brace Assembly

**

DAS 36
9-89
EL 15-7-14

Location

Loc Qty

Loc Code

ST228

1

131873

1

134674 x1

MS27039-4-20

Purchased

No

240

Each

10.0000

4

12

MS27039-4-20

Screw

**

DAS 36
9-89
15/07/15

Location

Loc Qty

Loc Code

ST283

10

m130835

10

4

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Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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Work Order ID: 133427

Parent Item: D5162-041

Parent Item Name: Seat Structure Assembly

133427

D5162-041

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

MS20600-AD4W4

Purchased

No

240

Each

1,050.000

4

12

MS20600-AD4W4

Rivets

**

15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

ST308

996

M132256

996

WA003

54

M131624

54

MS27039-1-19

Purchased

No

240

Each

374.0000

4

12

MS27039-1-19

Screw

**

M132256
4X
15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

GA

128

m124326

32

m127904

96

ST273A

161

m127904

161

ST284

85

125654

44

m127904

41

D3024-1

Manufactured

No

240

Each

7.0000

3

9

D3024-1

Spacer

**

15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

ST015

7

127195

7

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

MS27039-1-17

Purchased

No

240

Each

295.0000

1

3

MS27039-1-17

Screw (601.1954)

DAS

36

9-89

15/07/15

Location

Loc Qty

Loc Code

GA

188

120142

38

m127831

150

ST285

107

m127305

101

m130388

6

MS24693-S49

Purchased

No

240

Each

200.0000

4

12

MS24693-S49

Screw

DAS

36

9-89

15/07/15

Location

Loc Qty

Loc Code

ST293

200

m130835

200

NAS1149D0332J

Purchased

No

240

Each

1,811.000

30

90

NAS1149D0332.J

Washer

DAS

36

9-89

15/07/15

Location

Loc Qty

Loc Code

CA

14

m129682

14

ST269

1017

m130325

879

m131624

138

ST270

780

m132189

780

30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Picklist Print

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

MS20600-AD4W5

Purchased

No

240

Each

512.0000

8

24

MS20600-AD4W5

Blind Rivet

**

15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

CCK004

200

m131618

200

ST308

312

m129820

22

m131340

290

M132640
8x

MS21042L3

Purchased

No

240

Each

2,244.000

17

51

MS21042L3

Nut

**

15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

FP001

420

M130922

420

GA

503

M131317

503

ST305

1321

116549

12

126333

49

M128754

2

M132123

258

M132382

1000

17

NAS1149D0432J

Purchased

No

240

Each

836.0000

17

51

NAS1149D0432J

WASHER

**

15/07/15
DAS
36
9-89

Location

Loc Qty

Loc Code

ST269

836

m131026

836

17

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D5159-041

Manufactured No

240

Each

1.0000

1

3

D5159-041

Seat Back Brace Assembly

**

EL 15-7-14

Location

Loc Qty

Loc Code

134073X1

ST228

1

131982

1

AN4-14A

Purchased No

240

Each

309.0000

2

6

AN4-14A

Bolt

**

15/07/15

DAS
36
9-89

Location

Loc Qty

Loc Code

FG

5

122141

5

ST325A

278

131677

2

M131153

5

M132189

71

M132317

200

ST344

26

M130716

15

M131803

11

2

D3031-1

Manufactured No

240

Each

8.0000

2

6

D3031-1

Loop

**

15/07/15

DAS
36
9-89

Location

Loc Qty

Loc Code

GA

8

124064

8

2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

AN3-12A Purchased No 240 Each 111.0000 3 9 ****** *15/07/15* DAS 36 9-89

AN3-12A

Bolt

Location	Loc Qty	Loc Code
CA	69	
m129682	69	
GA	4	
m130566	4	<i>3</i>
ST349	38	
m126192	4	
m130566	34	

MS21042L4 Purchased No 240 Each 5,121.000 8 24 ****** *15/07/15* DAS 36 9-89

MS21042L 4

Locknut

Location	Loc Qty	Loc Code
FP001	26	
m124231	26	
GA	208	
m127813	208	<i>8</i>
ST260a	4062	
m130799	56	
m131803	6	
m132262	1000	
m132382	3000	
ST305	825	
m128300	8	
m130388	7	
m130922	97	
m131618	12	
m132123	701	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

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Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D2199-31

Manufactured No

240

Each

3.0000

1

3

D2199-31

Strut Details

EL 15-7-14

13433541

Location

Loc Qty

Loc Code

ST351

3

129757

3

MS27039-1-20

Purchased No

240

Each

248.0000

2

6

MS27039-1-20

Screw

15/07/15 DAS
36
9-89

Location

Loc Qty

Loc Code

ST284

248

124326

248

MS27039-4-21

Purchased No

240

Each

34.0000

2

6

MS27039-4-21

Screw

15/07/15 DAS
36
9-89

Location

Loc Qty

Loc Code

ST284

34

m129909

18

m131616

16

MS27039-1-18

Purchased No

240

Each

1,899.000

3

9

MS27039-1-18

Screw

15/07/15 DAS
36
9-89

Location

Loc Qty

Loc Code

GA

273

123522

73

124326

200

ST273A

1373

124326

1373

ST284

253

124326

253

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																													
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Root Cause</th> <th colspan="3" style="text-align: left;">FAULT CATEGORY</th> </tr> </thead> <tbody> <tr> <td>Environment ☐</td> <td>No Re-verification ☐</td> <td>Pressure/Forced ☐</td> <td>Temperature/Cure ☐</td> <td>Power Loss/Surge ☐</td> <td>Positioned Wrong ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> <td>Out of Sequence ☐</td> <td>Part Moved ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="4" rowspan="2" style="text-align: center; vertical-align: middle;">OTHER :</td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </tbody> </table>						Root Cause			FAULT CATEGORY			Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :				Misidentified ☐	Past Due ☐
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																																																																										
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																																																																										
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																																																																										
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																																																																										
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																																																																										
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :																																																																													
Misidentified ☐	Past Due ☐																																																																														

Picklist Print

Monday, June 08, 2015 4:01:21 PM

Page 13

Work Order ID: 133427

133427

Parent Item: D5162-041

D5162-041

Parent Item Name: Seat Structure Assembly

Start Date: 6/08/15

Required Date: 6/08/15

Start Qty: 3.00

Required Qty: 3.00

D5159-045

Manufactured No

240 Each 4.0000 1 3

D5159-045

Seat Rib Assembly

EL 15-7-14

Location

Loc Qty

Loc Code

ST228

4

129850

4

AN970-4

Purchased No

240 Each 365.0000 1 3

AN970-4

Washer

15/07/15 **DAS 36 9-89**

Location

Loc Qty

Loc Code

ST329

365

m129521

365

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3016	REV. A SHEET 1 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE NTS
A	01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
X	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

NOTES

- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

15-06-09
NO. 133421415
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
ENGINEERING
RETURN TO
SHOP COPY

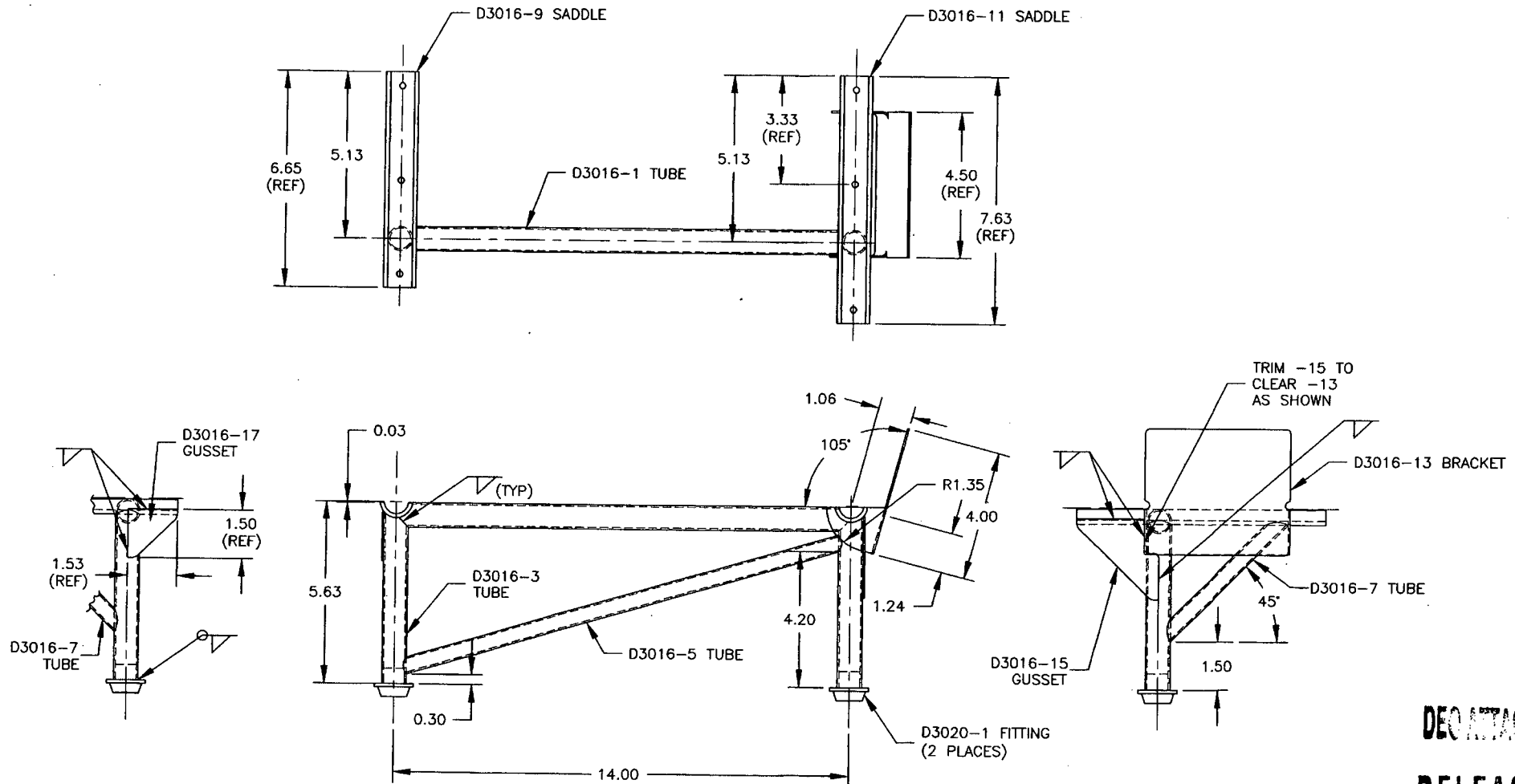
DEO ATTACHED

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01.05.30

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D3016-041 SEAT FRAME ASSEMBLY

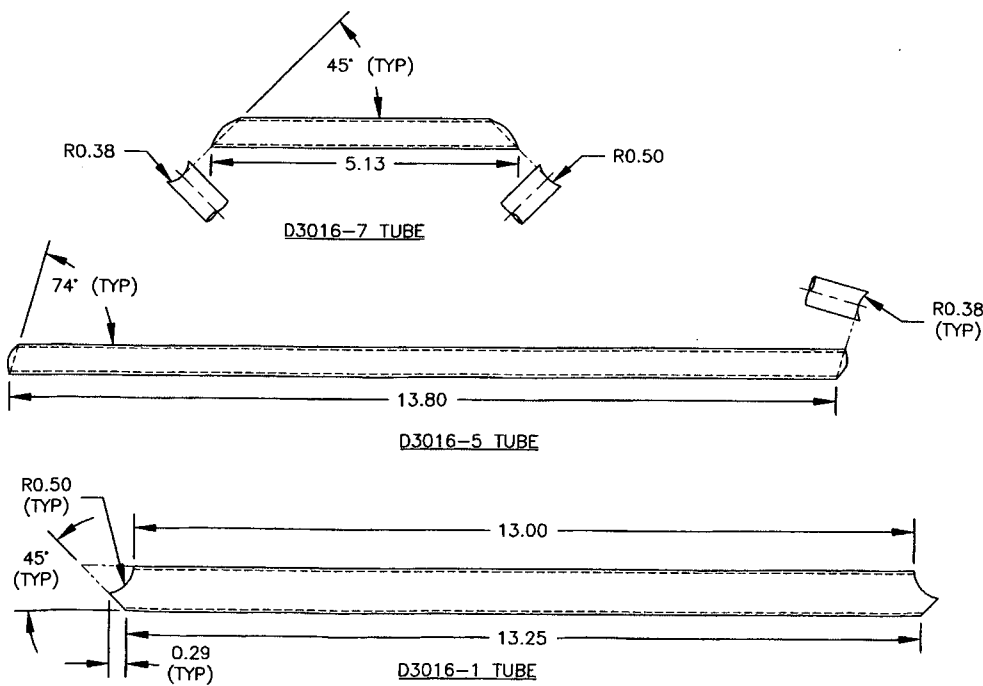
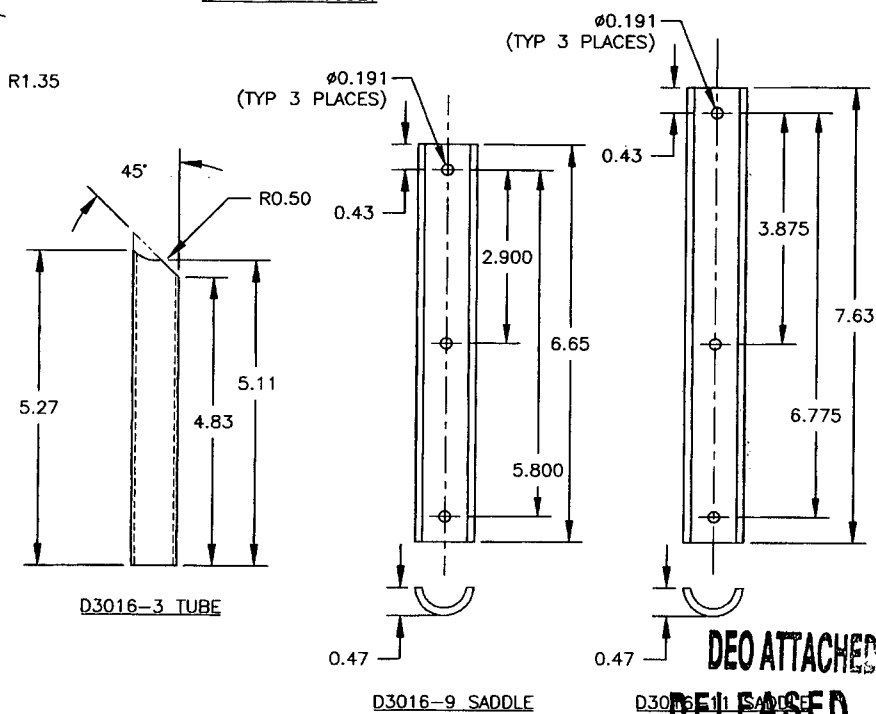
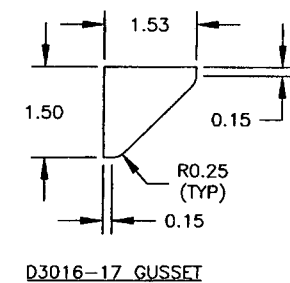
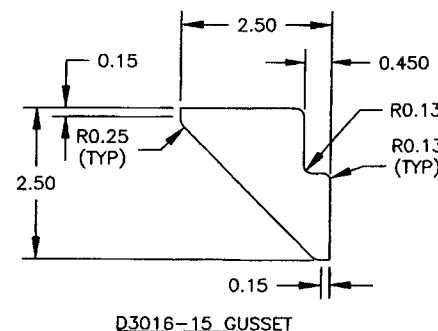
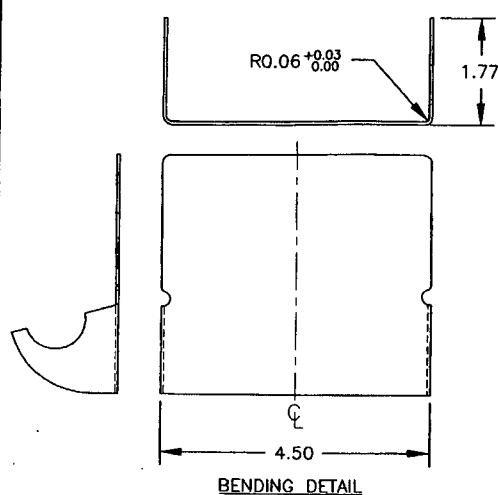


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01.05.18

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DESIGN CP	DRAWN BY CP	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D3016	REV. A
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SHEET 2 OF 3 SCALE 1:3



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DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY		SCALE 1:2	

DEO ATTACHED
RELEASED
9.05.30

DRAWING NO. D3016	TITLE SEAT FRAME ASSEMBLY	REV. A	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3016-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN	CHECKED	MFG. APPR.	APPROVED		DE APPR.		
DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29		DATE 10.01.29		

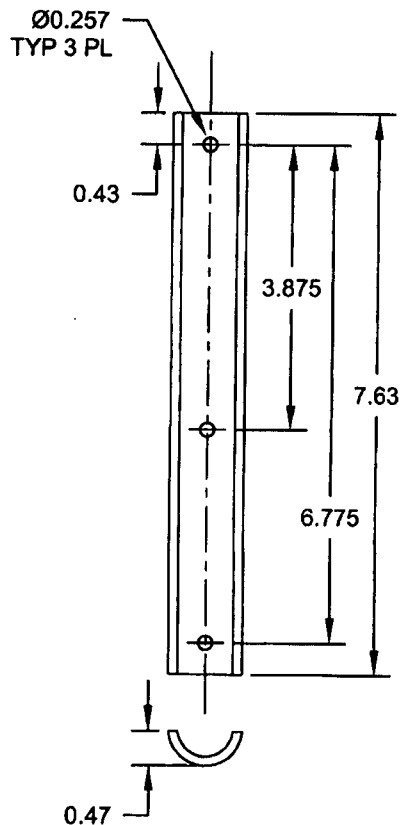
PURPOSE:

TO REVISE D3016-11 SADDLE'S HOLE SIZES

CHANGE:

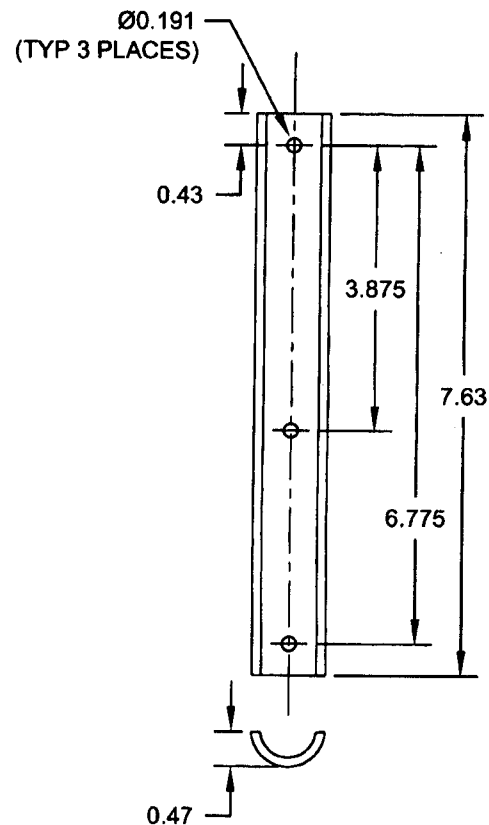
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

IS:

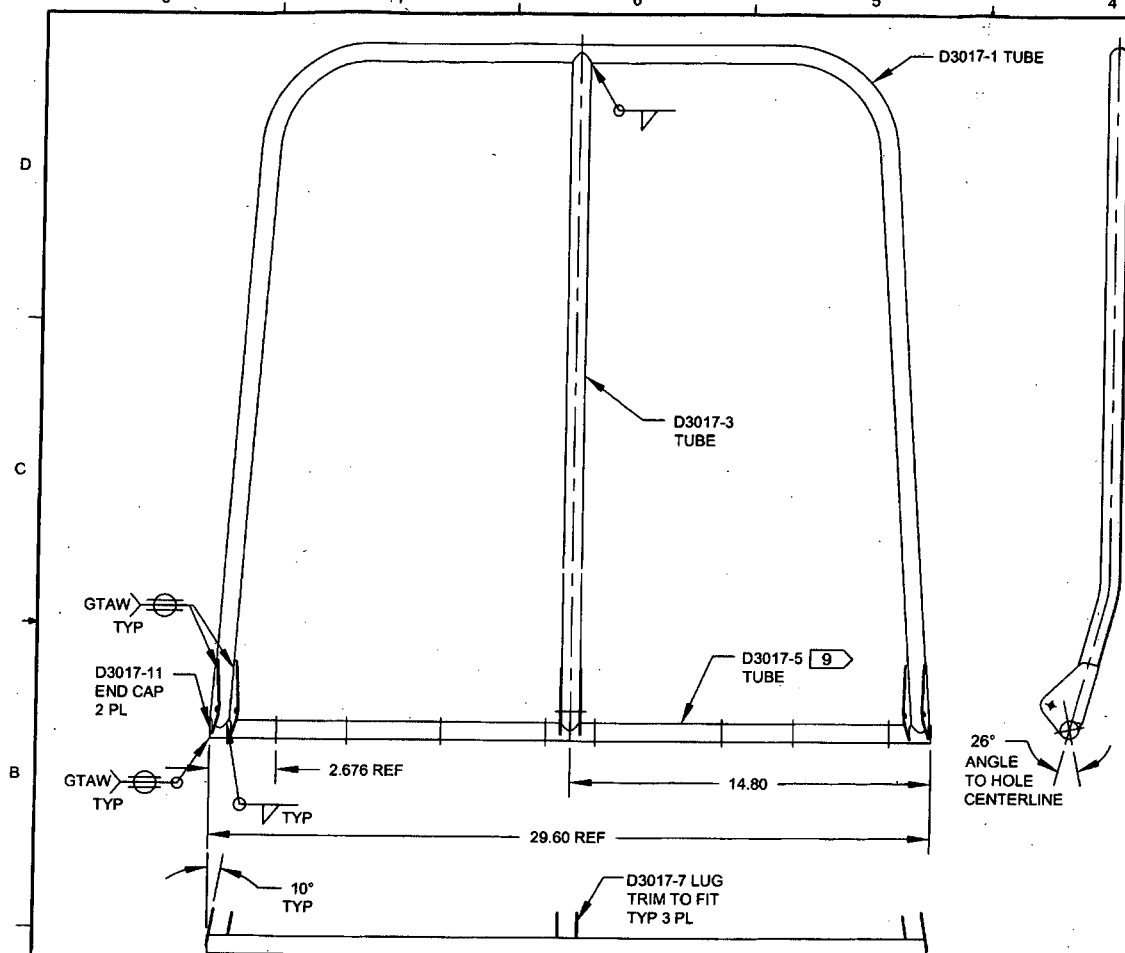


D3016-11 SADDLE

WAS:



D3016-11 SADDLE



ITEM No.	QTY	PART NUMBER	DESCRIPTION
	X	D3017-041	BACK FRAME ASSEMBLY
1	1	D3017-1	TUBE
2	1	D3017-3	TUBE
3	1	D3017-5	TUBE
4	3	D3017-7	LUG
5	2	D3017-11	END CAP

D3017-041 BACK FRAME ASSEMBLY

NOTES:

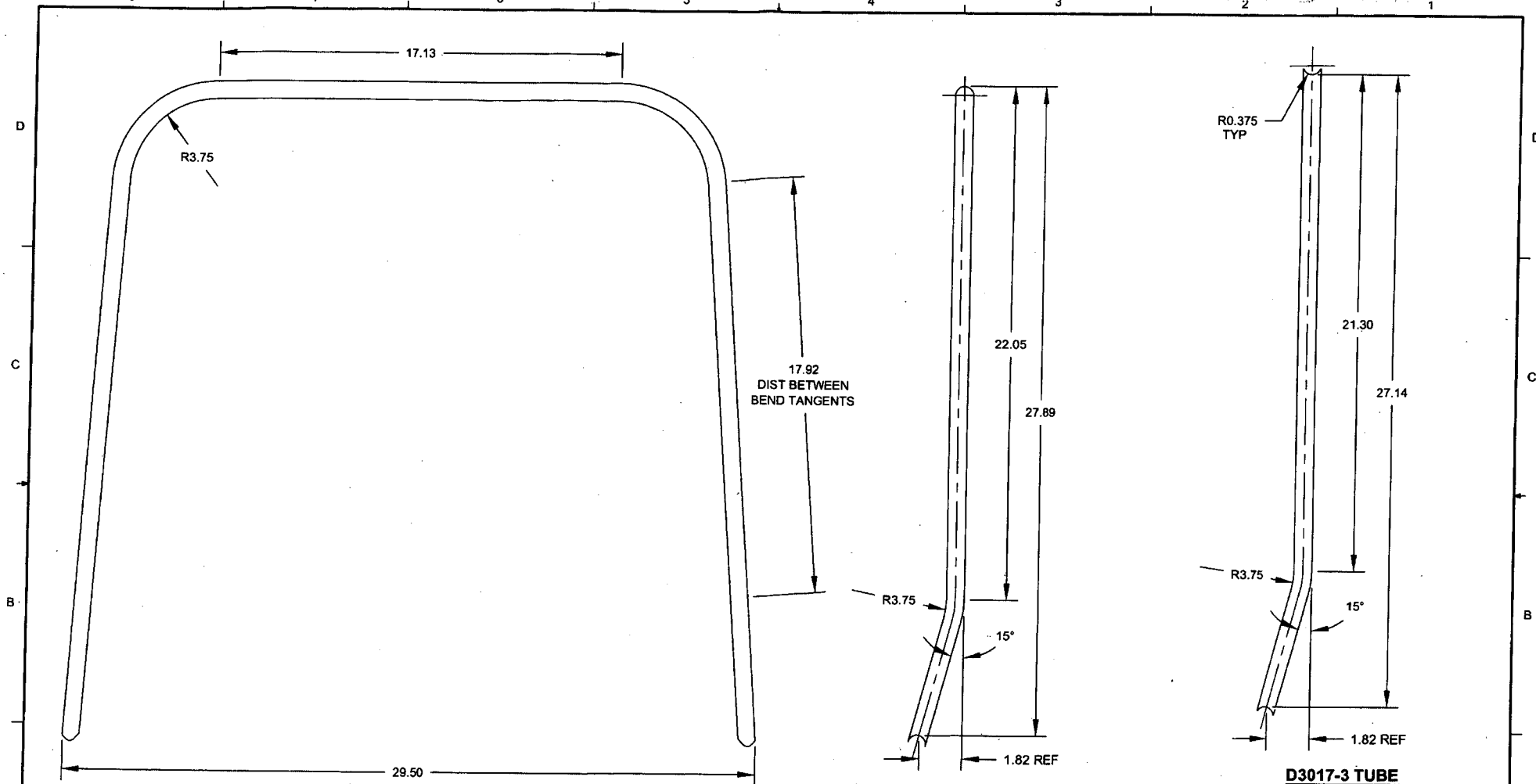
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3017-041" USING FINE POINT PERMANENT INK-MARKER
- 7) WEIGHT: 4.50 lbs
- 8) WELD PER DART QSI 004
- 9) ROTATE SO THAT PILOT HOLES ARE ANGLED AS SHOWN IN END VIEW.

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2015 FEB 04

ECN 15-322 9

C	FINISH REMOVED (TO BE APPLIED AT NEXT ASSY)	AJS	14.11.13
B	REFORMAT DWG, -5 TUBE WALL THKNS REVD (A8-3) SHEET 3 & 4 ADDED TO CLARIFY DRAWING. RADIUS CHANGED FROM R4.00 TO R3.75 (B4-2, B2-2). HOLE SIZE CHANGED FROM Ø0.191 TO Ø0.257 (C6-3, C3-3)	JPH	10.01.13
A	NEW ISSUE	CP	01.05.18
REV.	DESCRIPTION	BY	DATE
DESIGN	CP		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	14.11.13		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3017 TITLE BACK FRAME ASSEMBLY REV. C SHEET 1 OF 4 SCALE NTS COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



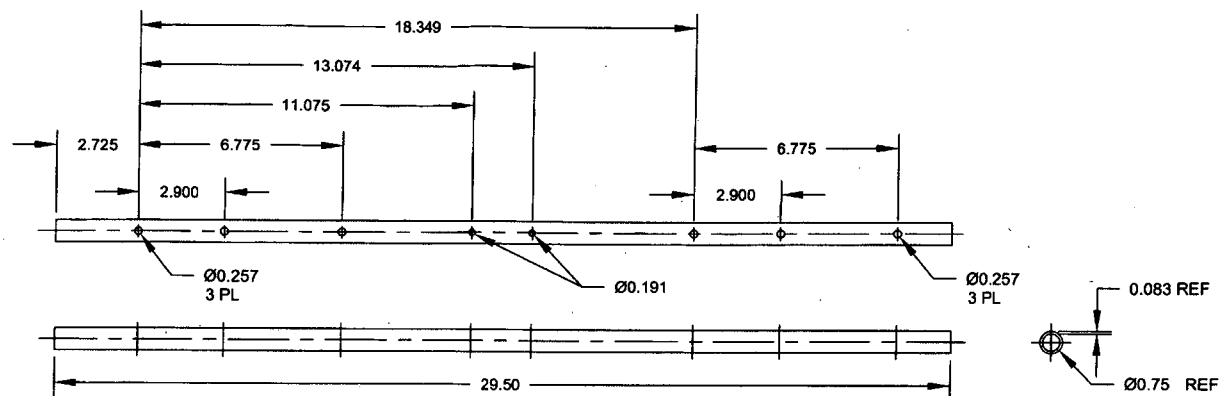
NOTES:

- 1) MATERIAL: AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D3017-1: 2.38 lbs; D3017-3: 0.84 lbs.

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2015 FEB 04

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3017	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BACK FRAME ASSEMBLY	NTS
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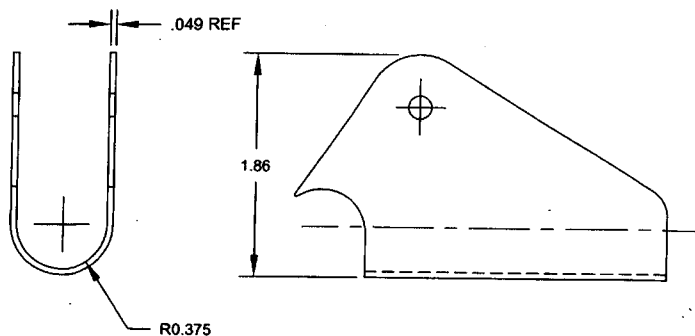


D3017-5 TUBE

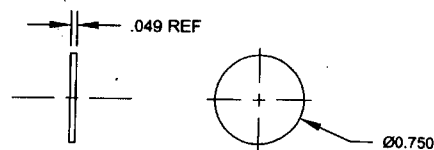
NOTES:

- 1) MATERIAL: AISI 4130N TUBE, Ø0.75 DIA x 0.083 WALL (M4130N-T0750W083)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.89 lbs

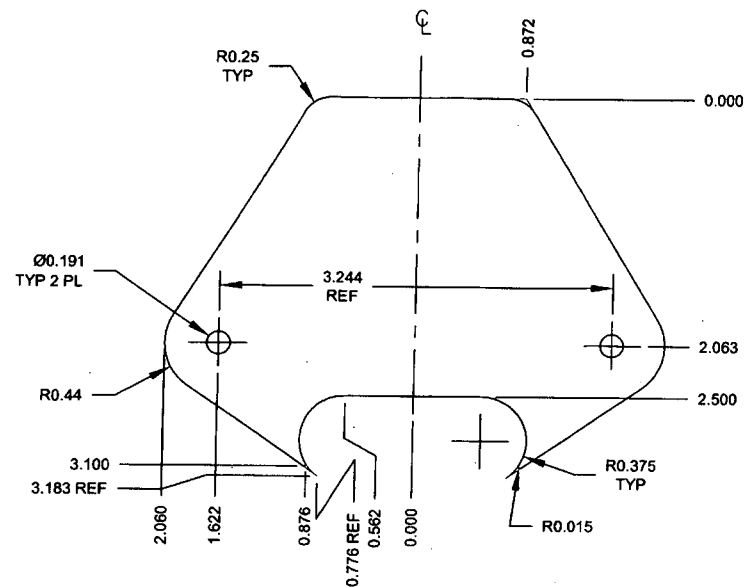
DESIGN	CP	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3017	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BACK FRAME ASSEMBLY	NTS
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D3017-7 LUG
BENDING DETAIL
MAKE FROM D3017-7F



D3017-11 END CAP



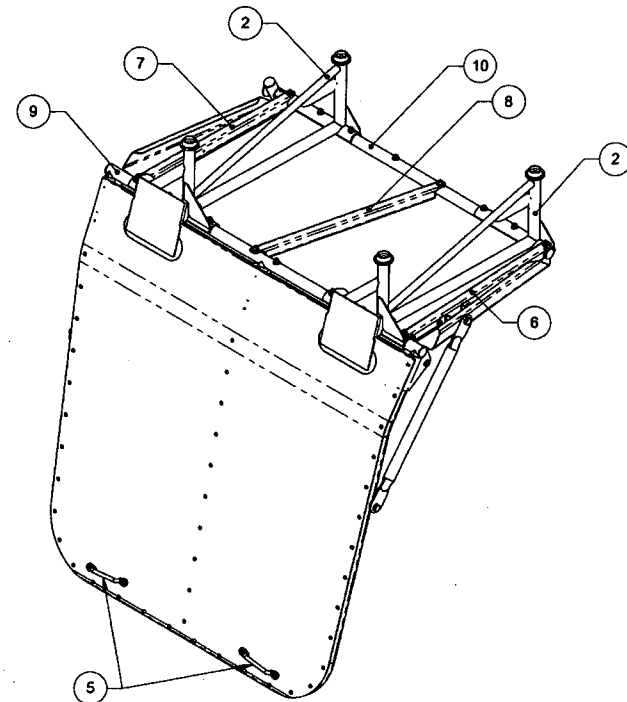
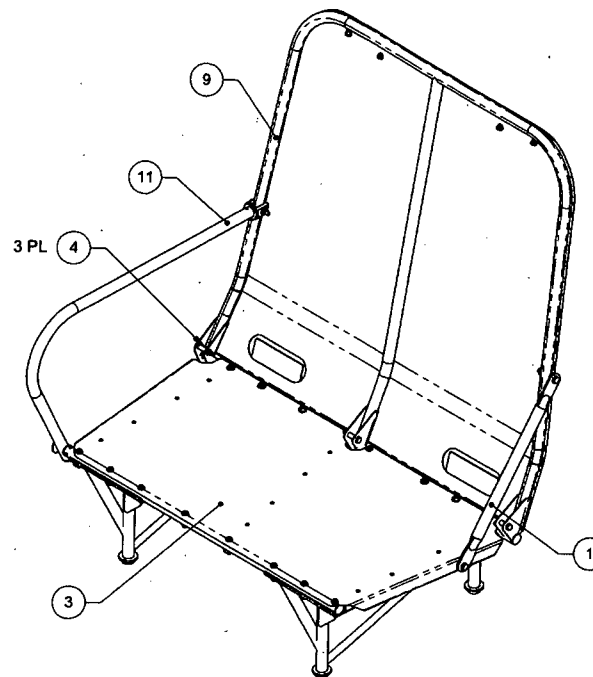
D3017-7F FLAT PATTERN
PART IS SYMMETRIC
ABOUT CENTERLINE

- NOTES:**
- 1) MATERIAL: AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: -7: 0.12 lbs; -11: 0.01 lbs

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2015 FEB 04

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	A.S.	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3017	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		BACK FRAME ASSEMBLY	NTS
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ITEM	QTY -041	P/N	DESCRIPTION
	X	D5162-041	SEAT STRUCTURE ASSEMBLY
1	1	D2199-31	STRUT
2	2	D3016-041	SEAT FRAME ASSEMBLY
3	1	D3022-1	SEAT PAN
4	3	D3024-1	SPACER
5	2	D3031-1	LOOP
6	1	D5159-041	SEAT BACK BRACE ASSY
7	1	D5159-043	SEAT BACK BRACE ASSY
8	1	D5159-045	SEAT RIB ASSY
9	1	D5162-051	SEATBACK ASSEMBLY
10	1	D5189-041	TUBE ASSEMBLY
11	1	D5189-043	ARMREST ASSEMBLY
12	3	AN3-12A	BOLT
13	1	AN4-6A	BOLT
14	1	AN4-4A	BOLT
15	2	AN4-14A	BOLT
16	1	AN970-4	WASHER
17	4	MS20600AD4W4	RIVET, BLIND
18	8	MS20600AD4W5	RIVET, BLIND
19	17	MS21042L3	NUT, SELF-LOCKING
20	8	MS21042L4	NUT, SELF-LOCKING
21	4	MS24693-S49	SCREW, CSK 100'
22	1	MS27039-1-17	SCREW, PAN-HEAD
23	3	MS27039-1-18	SCREW, PAN-HEAD
24	4	MS27039-1-19	SCREW, PAN-HEAD
25	2	MS27039-1-20	SCREW, PAN-HEAD
26	2	MS27039-4-21	SCREW, PAN-HEAD
27	4	MS27039-4-20	SCREW, PAN-HEAD
28	17	NAS1149D0432J	WASHER
29	30	NAS1149D0332J	WASHER
30	2	NAS43DD4-16FC	SPACER



D5162-041 SEAT STRUCTURE ASSEMBLY

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 19.1 lbs

RELEASED

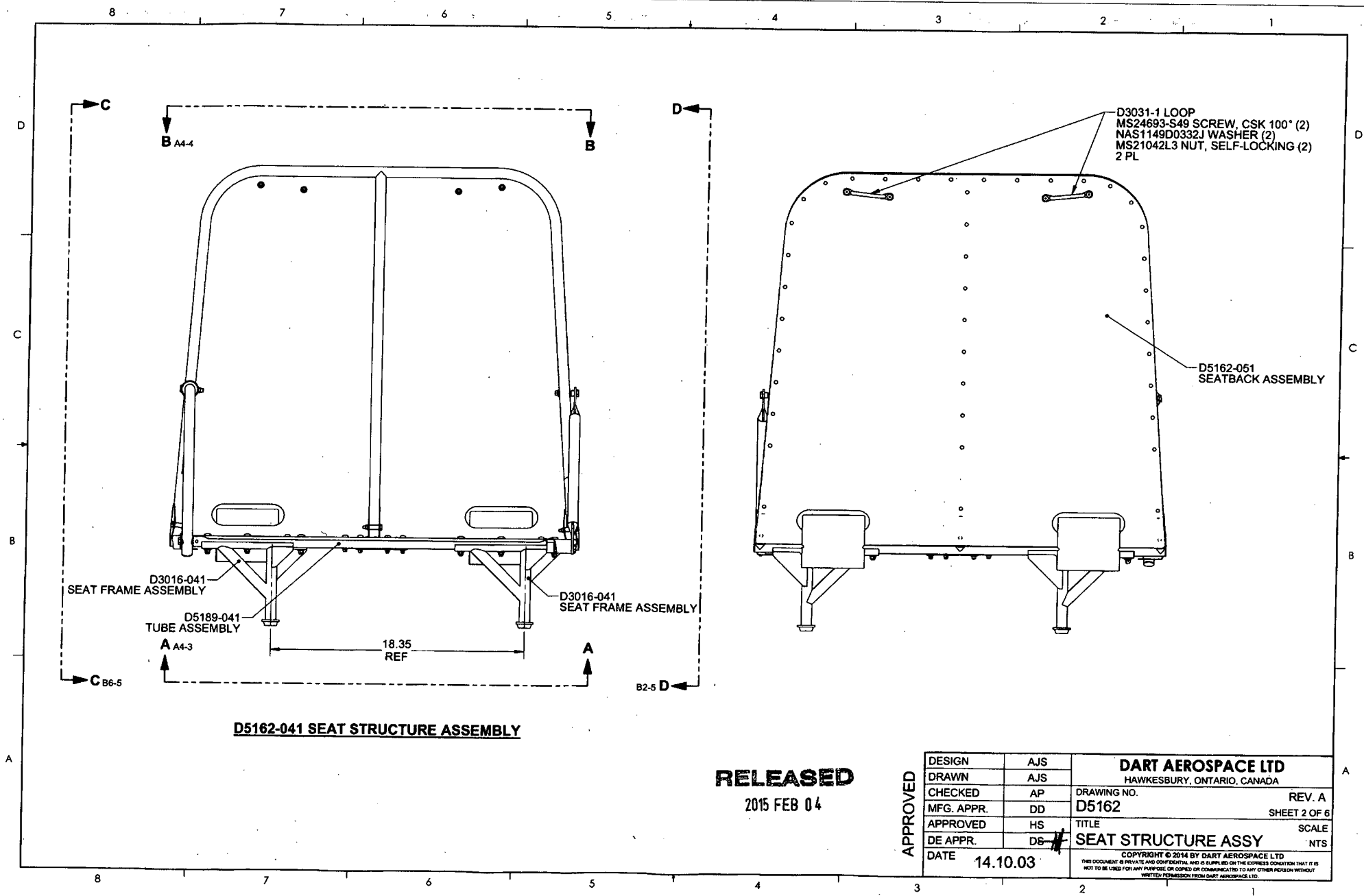
2015 FEB 04

ECN 15-322 9

APPROVED

A NEW ISSUE		AJS	14.10.03
REV.	DESCRIPTION		BY DATE
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 1 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
DATE		14.10.03	

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2015 FEB 04

APPROVED	DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	AJS		
	CHECKED	AP	DRAWING NO. D5162	REV. A
	MFG. APPR.	DD	SHEET 2 OF 6	
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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D5189-043
ARMREST ASSEMBLY

AN4-4A BOLT
AN970-4 WASHER

D5159-045
SEAT RIB ASSY

D5159-041
SEAT BACK BRACE ASSY

D5159-043
SEAT BACK BRACE ASSY

D3022-1
SEAT PAN

2
AN4-6A BOLT
NAS1149D0432J WASHER
NAS43DD4-16FC SPACER

D2199-31 STRUT
REF

VIEW A-A B8-2
(SCALE 1.5X)

RELEASED

2015 FEB 04

SHEET 3 NOTES:

- 1) INSTALL D2199-31 STRUT AT SEAT PAN END FIRST
- 2) TRANSFER MARK FROM D5159-041 SEAT BACK BRACE ASSY TO D3022-1 SEAT PAN AND DRILL $\phi 0.386$ THRU D3022-1 SEAT PAN.

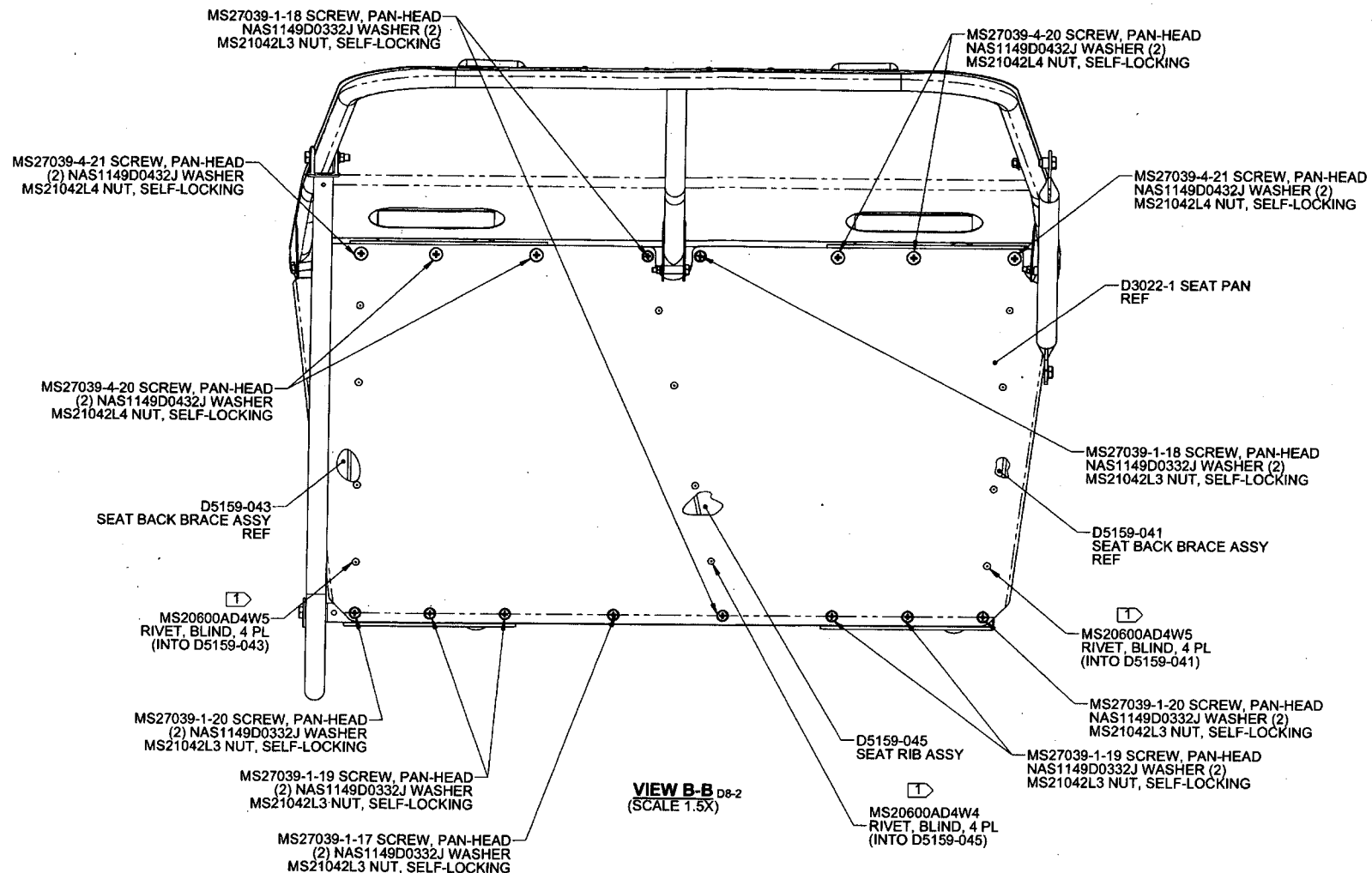
APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 3 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
DATE	14.10.03	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



VIEW B-B D8-2
(SCALE 1.5X)

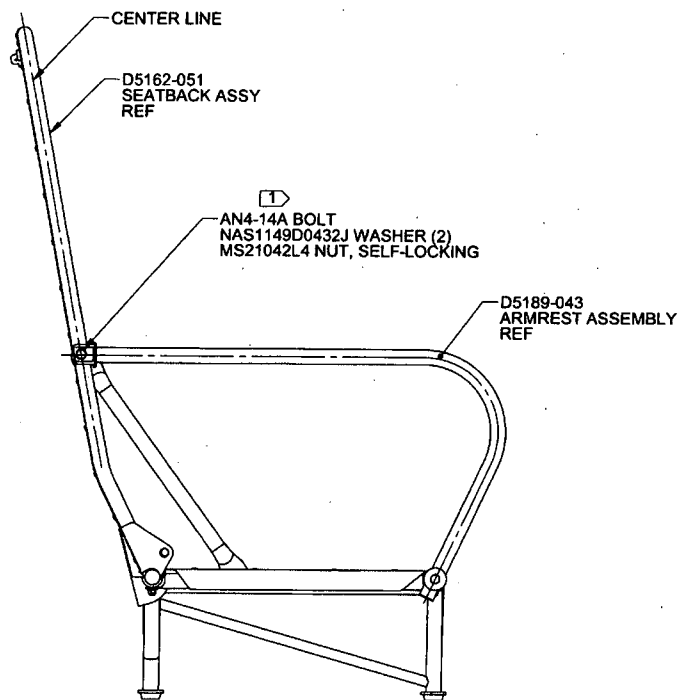
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2015 FEB 04

APPROVED

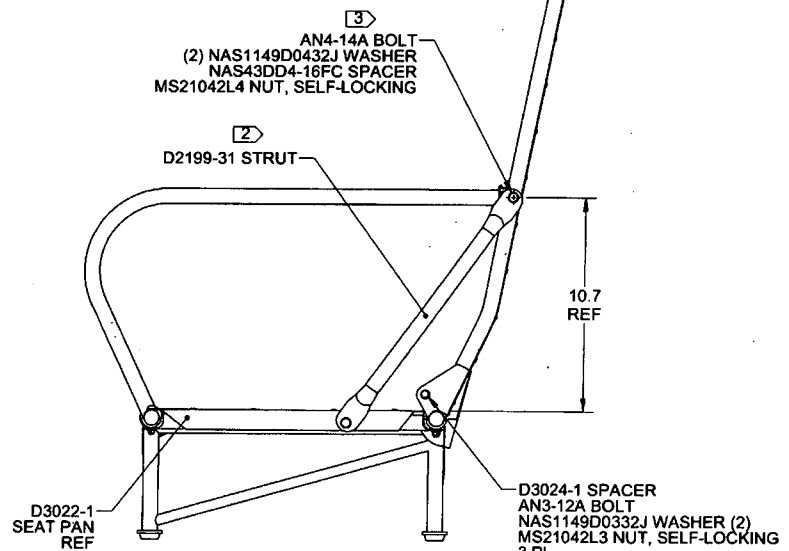
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 4 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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SHEET 4 NOTES:
1) TRANSFER MARK FROM D5159-041/-043/-045 TO D3022-1 SEAT PAN
DRILL Ø0.129 THRU SEAT PAN THEN INSTALL MS20600AD4W4/5 RIVETS.

8 7 6 5 4 3 2 1



VIEW C-C A8-2



VIEW D-D A5-2

SHEET 2 NOTES:

- 1) ALIGN THE PILOT HOLE ON THE D5189-043 ARMREST ASSEMBLY TO THE CENTERLINE ON THE D5162-051 BACK FRAME ASSEMBLY AND DRILL $\phi 0.257$ THRU THE D5189-043 AND D5162-051.
- 2) INSTALL D2199-31 STRUT AT SEAT PAN END FIRST
- 3) TRANSFER MARK FROM D2199-31 STRUT TO D5162-051 SEATBACK ASSY AND DRILL $\phi 0.266$ THRU D5162-051 SEATBACK ASSY

RELEASED

2015 FEB 04

APPROVED

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5162	SHEET 5 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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ITEM	QTY	P/N	DESCRIPTION
	X	D5162-051	SEATBACK ASSEMBLY
1	1	D3017-041	BACK FRAME ASSEMBLY
2	1	D3023-1	BACK PANEL
3	46	MS20600AD4W2	RIVET, BLIND

D3017-041
BACK FRAME ASSEMBLY

D3023-1
BACK PANEL

MS20600AD4W2
RIVET, BLIND
46 PL

8 D5162-051 SEATBACK ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT GREY SANTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 7.42 lbs
- 8) TRANSFER MARK FROM D3023-1 TO D3017-041.
DRILL Ø0.129 INTO THE D3017-041 (DRILL THRU ONE WALL ONLY).
THEN INSTALL MS20600AD4W2 RIVETS.

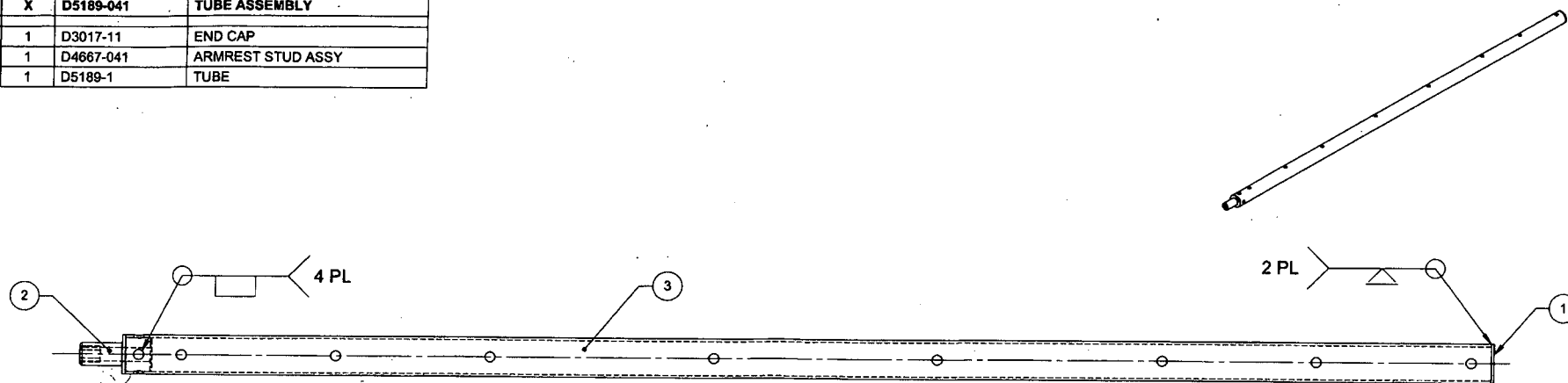
RELEASED

2015 FEB 04

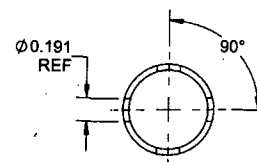
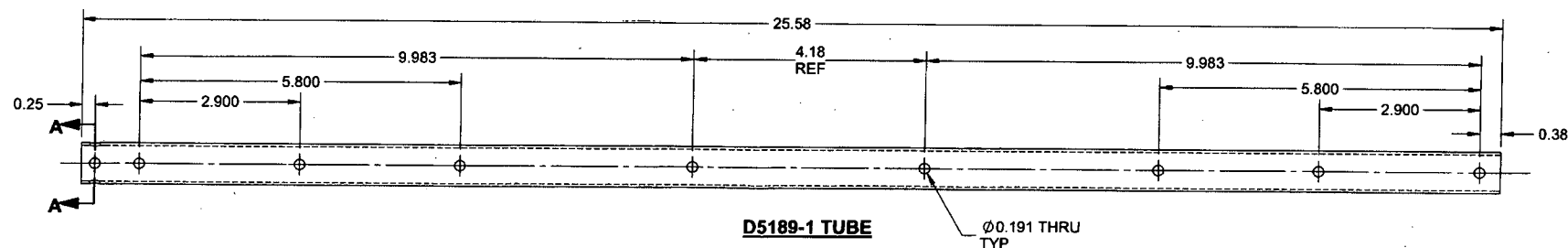
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DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO. D5162	REV. A
MFG. APPR.	DD	SHEET 6 OF 6	
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	SEAT STRUCTURE ASSY	NTS
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ITEM	QTY -041	P/N	DESCRIPTION
	X	D5189-041	TUBE ASSEMBLY
1	1	D3017-11	END CAP
2	1	D4667-041	ARMREST STUD ASSY
3	1	D5189-1	TUBE



D5189-041 TUBE ASSEMBLY



SECTION A-A
SCALE 2X

NOTES:

- 1) MATERIAL -041: N/A
 - 1: AISI 4130N SEAMLESS STEEL TUBING, Ø0.750 X 0.049 WALL PER MIL-T-6736 OR AMS 6371/6360/6361/6362/6373/6374 REF M4130NT0.750W0.049
- 2) FINISH -041: POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.85 lbs
- 8) WELD PER DART QSI 004

RELEASED

2015 FEB 04

ECN 15-522 *ap*

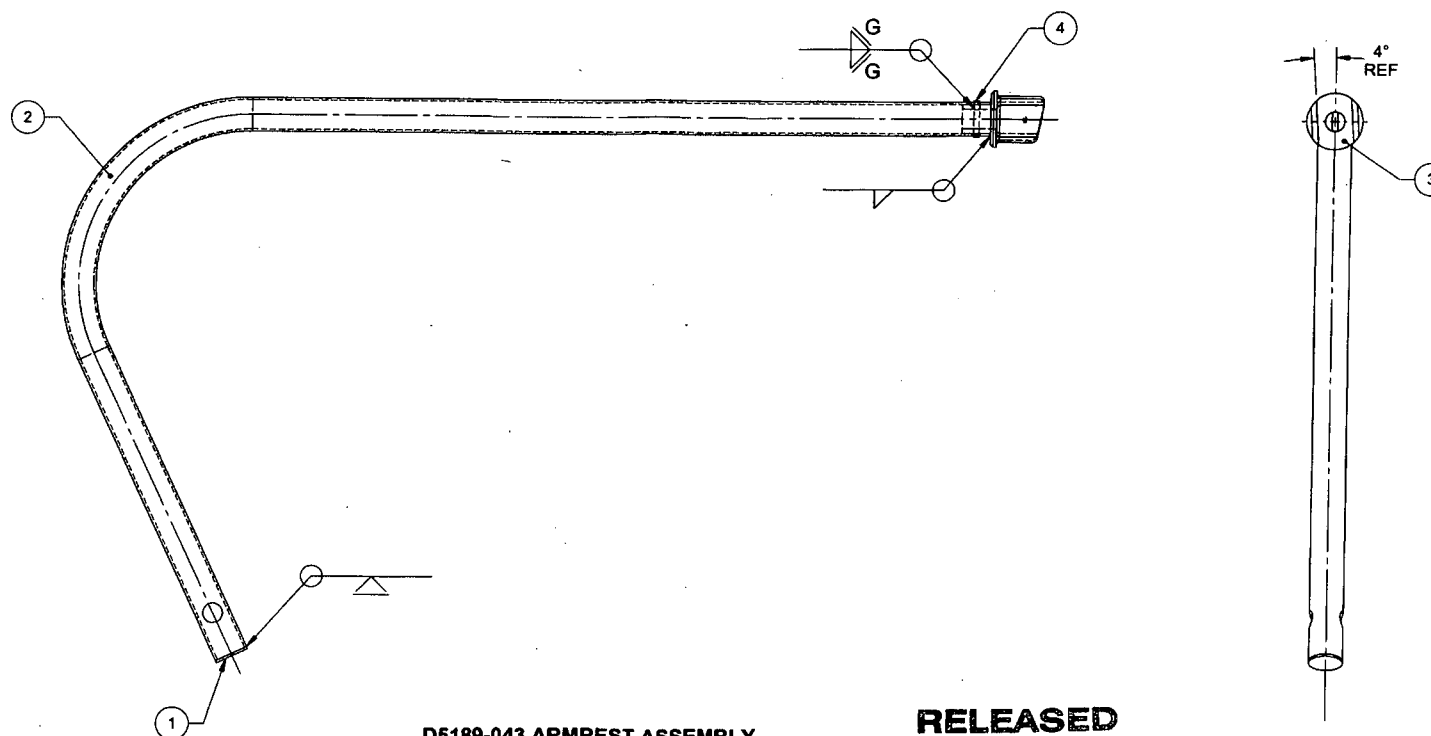
A NEW ISSUE		AJS	14.11.18
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED	AP		
MFG. APPR.	DD		
APPROVED	HS		
DE APPR.	DS		
DATE	14.11.18		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D5189** REV. A
SHEET 1 OF 3
TITLE **ARMREST COMPONENTS** SCALE NTS

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ITEM	QTY	P/N	DESCRIPTION
	X	D5189-043	ARMREST ASSEMBLY
1	1	D3017-11	END CAP
2	1	D5189-3	ARMREST
3	1	D5190-1	ARMREST FITTING
4	1	D5190-3	WELD PIN



D5189-043 ARMREST ASSEMBLY

RELEASED

2015 FEB 04

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT GREY SANDEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.08 lbs
- 8) WELD PER DART QSI 004

APPROVED

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	AP	DRAWING NO.	REV. A
MFG. APPR.	DD	D5189	SHEET 2 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	ARMREST COMPONENTS	NTS
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